Why CEDS?

Why CEDS: The Early Learning Edition

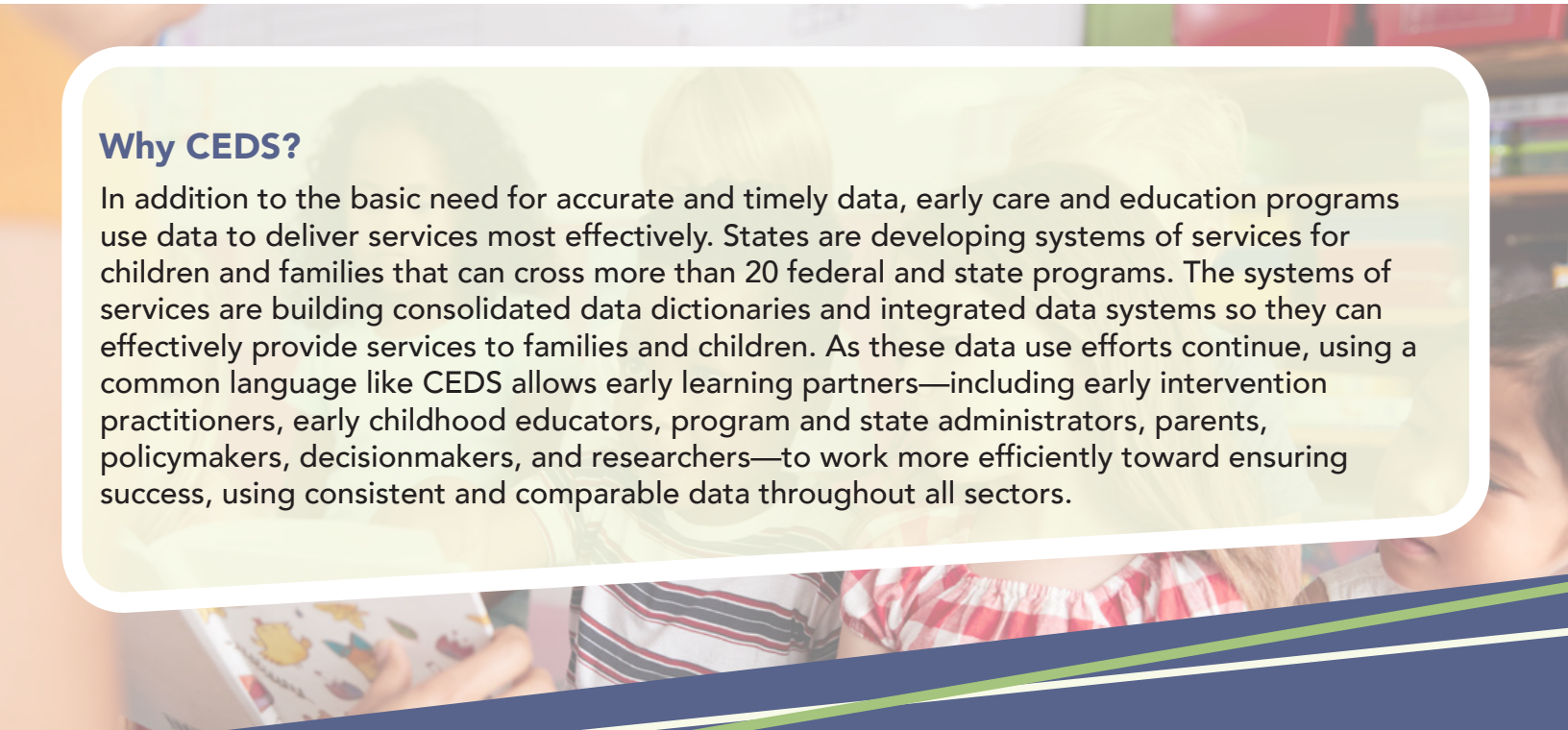
A shared vocabulary for comparing informational data[1] allows agencies to understand, compare, and exchange data. Organizations across early learning settings use data from a variety of sources to inform how and when services are made available to children and families. The Common Education Data Standards (CEDS) project is a collaborative partnership among organizations that has worked, on a voluntary basis, to develop common data standards to help streamline the exchange, comparison, and understanding of data within and across the birth-to-workforce sectors (B-20W).

Consider These Scenarios...

- A child is enrolled in both Early Intervention and Early Head Start. The data that are used to register and enroll the child are defined differently between programs. Consequently, data across programs cannot be compared when programs within a state are using data that are defined differently. This interferes with analyzing data across programs to complete such analyses as unduplicated count of children being served.
- Within a state there may be a number of diverse programs providing services to young children and their families. These programs may include state PreK, HeadStart, home visiting for newborns, childcare center, family childcare home, and library preschool groups.

In each of these scenarios, lack of clear and consistent data definitions results in serious data complications. Using common vocabulary to define the data, so that everyone across programs are discussing the same, will strengthen confidence in the accuracy and utility of the data in each case.

[1] Data refer to information collected and stored. Data are stored by data element (name assigned for the information, for example, First Name) and, according to best practices, should have a clear and concise definition for the information expected in the data element.



Why CEDS?

In addition to the basic need for accurate and timely data, early care and education programs use data to deliver services most effectively. States are developing systems of services for children and families that can cross more than 20 federal and state programs. The systems of services are building consolidated data dictionaries and integrated data systems so they can effectively provide services to families and children. As these data use efforts continue, using a common language like CEDS allows early learning partners—including early intervention practitioners, early childhood educators, program and state administrators, parents, policymakers, decisionmakers, and researchers—to work more efficiently toward ensuring success, using consistent and comparable data throughout all sectors.

Expanding List of Tools: CEDS Align and CEDS Connect

CEDS includes multiple tools to help anyone use and integrate the standards into their work.

CEDS Align is a web-based tool that allows users to import or input their data dictionaries, align their elements to CEDS, compare their data dictionaries with those of other users, and analyze their data in relation to various other CEDS alignments. Anyone can use CEDS Align to understand how their data dictionaries relate to the standards and to identify similarities or gaps that must be addressed when sharing data.
https://ceds.ed.gov/align.aspx

CEDS Connect enables users at different levels to consider connections—such as metrics, policy questions, or federal data reporting requirements—by establishing the data elements necessary to answer a given connection, as well as recommending logic and routines for analysis. CEDS Connect is designed to help the early care/early learning data community work together toward standard definitions and methodologies that will provide common, comparable data measurements and reporting across districts, states, and multiple agencies, including higher education and workforce. CEDS users can use the myConnect feature to compare the data dictionaries they saved in CEDS Align to the data elements needed for any connection feature that builds upon CEDS Align, in order to apply their Align maps to the elements needed for any connection.
https://ceds.ed.gov/connect.aspx

CEDS Benefits Early Learning Advocates

As CEDS expands and develops more tools, more users benefit. Some examples include the following:

- Early Learning agencies use CEDS Align to build data inventories/dictionaries and define data elements, resulting in improved data quality.
- Early Learning programs compare data dictionaries using CEDS Align to understand how they can link or integrate data across disparate systems, resulting in the reduction of duplicative, and often incompatible, data.
- Early Learning programs use CEDS Connect to understand how they can use the data collected to analyze program efficiency and effectiveness, educational outcomes, and teacher/staff needs.

As more early learning partners discover how CEDS benefits their work, more people and programs use a common data vocabulary, and the reliability and utility of the shared data improve.

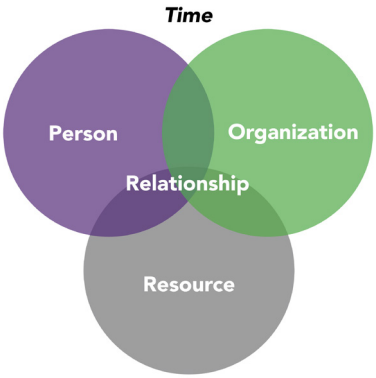
The Technical Side

For the more technical user, CEDS offers free, data systems. Users can download and stand up the Integrated Data Store and/or Data Warehouse for use as their own system or to integrate multiple legacy systems together.

The Integrated Data Store (IDS)

The IDS is a model for operational implementations aligned to the CEDS standards. It is based on the CEDS Conceptual Model, an organization of entities based on a foundation of Person, Organization, Resource, and Relationship.

CEDS's P-20W focus helps organizations shift their isolated, domain-specific, or location-specific datasets into data that are compatible across domains and geographic boundaries.



CEDS Data Warehouse (DW)

The CEDS DW is a P-20W star schema data model. It supports high-performance reporting of longitudinal data. The DW supports use cases from early learning, K-12, and postsecondary education, as well as workforce programs. All data elements used in the DW are aligned to CEDS.

Use the DW to do the following:

Store longitudinal P-20W data. The DW can support data from all P-20W sectors and associated use cases.

Enhance longitudinal data use. The star schema makes using longitudinal data more efficient by generating reports more quickly and simplifying queries.

Collaborate. By using the DW's standardized data architecture, agencies can access nonproprietary and open-source reports, code, and applications developed by other organizations.

Both the CEDS IDS and DW support changes to longitudinal data over time and use data versioning to provide an accurate record of the data.

CEDS Open Source Community (OSC)

The OSC brings together anyone interested in CEDS to collaboratively develop the data standards, CEDS IDS, and DW. OSC participants contribute code to the CEDS Open Source Repositories that other colleagues can adapt and use.

Explore and Engage with CEDS

To learn more about CEDS, explore the standards at **https://ceds.ed.gov**.

These free resources are an excellent starting point for building an ECIDS. CEDS is actively working with stakeholders to continue to build out early learning use cases.
Get involved by joining the **Open Source Community meetings**.